



Missouri Department of Natural Resources

PUBLIC NOTICE

DRAFT MISSOURI STATE OPERATING PERMIT

DATE: July 16, 2004

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed permit conditions are invited to submit them in writing to the Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102, ATTN: Peter Goode, Professional Engineer. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by August 16, 2004 or received in our office by 5:00 p.m. on August 19, 2004. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.state.mo.us/wpscd/wpcp/homewpcp.htm>, or at the Department of Natural Resources, Water Protection Program, 205 Jefferson Street, P.O. Box 176, Jefferson City, Missouri 65102, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: July 16, 2004

Permit Number: MO-0096229

Kansas City Regional Office

FACILITY NAME AND ADDRESS	NAME AND ADDRESS OF OWNER
Butler WWTP Highway 52 East Butler, MO 64730	City of Butler 101 North Lyons PO Box 420 Butler, MO 64730
RECEIVING STREAM & LEGAL DESCRIPTION	TYPE OF DISCHARGE
Mound Branch, Sec. 34, T40N, R31W, Bates County	Domestic, reissue and modification after upgrade

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.

MO-0096229

Owner:

City of Butler

Address:

101 North Lyons, PO Box 420, Butler, MO 64730

Continuing Authority:

Same as above

Address:

Same as above

Facility Name:

Butler Wastewater Treatment Plant

Facility Address:

Highway 52 East, Butler, MO 64730

Legal Description:

See page 2

Receiving Stream:

Mound Branch (C)

First Classified Stream and ID:

Mound Branch (C)(01300)

303(d)list

USGS Basin & Sub-watershed No.:

(10290102-120005)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

Expiration Date
MO 780-0041 (10-93)

Jim Hull, Director of Staff, Clean Water Commission

FACILITY DESCRIPTION (continued)

Outfall #001 - POTW- SIC #4952

Two oxidation ditches/two final clarifiers/aerobic sludge digestion/sludge is land applied.

Design population equivalent is 15,000.

Design flow is 1.5 MGD.

Actual flow is 0.84 MGD.

Design sludge production is 222 dry tons/year.

Actual sludge production is 144 dry tons/year.

Legal Description: N $\frac{1}{2}$, SW $\frac{1}{4}$, Sec. 34, T40N, R31W, Bates County

Latitude/Longitude: +3813354/-09420364

Outfall #002 - POTW- SIC #4952

Stormwater/located on NW side of facility

Design flow is 0.43 cfs.

Actual flow is dependent on rainfall.

Legal Description: N $\frac{1}{2}$, SW $\frac{1}{4}$, Sec. 34, T40N, R31W, Bates County

Latitude/Longitude: +3813351/-09420393

Outfall #003 - POTW - SIC #4952

Stormwater/located NE of facility where existing ditch meets Mound Branch

Design flow is 39.4 cfs.

Actual flow is dependent on rainfall.

Legal Description: N $\frac{1}{2}$, SW $\frac{1}{4}$, Sec. 34, T40N, R31W, Bates County

Latitude/Longitude: +3813356/-09420326

Downstream Monitoring

$\frac{1}{4}$ mile below outfall on Mound Branch.

Legal Description: Instream #2 - (downstream) - NE $\frac{1}{4}$, Sec. 5, T39N, R31W

Upstream Monitoring

Mound Branch above plant.

Legal Description: Instream #1 - (upstream) - SE $\frac{1}{4}$, NE $\frac{1}{4}$, Sec. 34, T40N, R31W

					PAGE NUMBER 3 of 8	
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PERMIT NUMBER MO-0096229	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 Flow	MGD	*		*	twice/week	24 hr. estimate
Ammonia as N (May to October) (November to March)	mg/L	4.5 7.0		2.25 3.55	once/month	grab
Biochemical Oxygen Demand ₅ **	mg/L		10	10	once/week	24 hr. comp.
Total Suspended Solids**	mg/L		15	15	once/week	24 hr. comp.
pH - Units	SU	***		***	once/week	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE _____.						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year	24 hr. comp.
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE _____.						
Outfalls #002 & #003 Flow	MGD	*		*	once/year	grab
Biochemical Oxygen Demand ₅ **	mg/L		45		once/year	grab
Total Suspended Solids**	mg/L		45		once/year	grab
pH - Units	SU	***		***	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE _____.						
<u>Instream Monitoring</u> (Upstream #1 and Downstream #2: 0.25 miles downstream of outfall)						
Flow	CFS	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L	*		*	once/month	grab
Temperature	°C	*		*	once/month	grab
pH Units	SU	*		*	once/month	grab
Dissolved Oxygen	mg/L	*		*	once/month	grab
Nitrate and Nitrite as N	mg/L	*		*	once/month	grab
Ammonia as N	mg/L	*		*	once/month	grab
Velocity	ft/s	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS <u>THOUGH FULLY SET FORTH HEREIN.</u>						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** This facility is required to meet a removal efficiency of 85% or more.
- *** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
4. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
 - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
 - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

C. SPECIAL CONDITIONS (continued)

5. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
- (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
6. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
7. Report as no-discharge when a discharge does not occur during the report period.
8. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT					
OUTFALL	A.E.C.%	LIMIT	FREQUENCY	SAMPLE TYPE	MONTH
#001	100%	No Significant Mortality	Annually	24 hr. composite	July

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a single-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period.
Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the WPP, Water Quality Section, P.O. Box 176, Jefferson City, MO 65102.
- (2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days, and biweekly thereafter, until one of the following conditions are met:

C. SPECIAL CONDITIONS (continued)

8. Whole Effluent Toxicity (WET) (continued)

- (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
- (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

(a) Test Schedule and Follow-Up Requirements (continued)

- (3) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WPP, Planning Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
 - (4) Additionally, the following shall apply upon failure of the third test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact WPP, Planning Section to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the Planning Section of the WPP within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
 - (5) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
 - (6) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
 - (7) All failing test results shall be reported to WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
 - (8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.
 - (9) Submit a concise summary of all test results with the annual report.
- (b) PASS/FAIL procedure and effluent limitations:
- (1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.

C. SPECIAL CONDITIONS (continued)

8. Whole Effluent Toxicity (WET) (continued)

(2) To pass a multiple-dilution test:

- (a) the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the LC₅₀ concentration for the most sensitive of the test organisms; or,
 - (b) all dilutions equal to or greater than the AEC must be nontoxic.
- Failure of one multiple-dilution test is an effluent limit violation.

(c) Test Conditions

(1) Test Type: Acute Static non-renewal

(2) Test species: *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

(3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.

(4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.

(5) Single-dilution tests will be run with:

- (a) Effluent at the AEC concentration;
- (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
- (c) reconstituted water.

(6) Multiple-dilution tests will be run with:

- (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
- (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
- (c) reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

Date of Fact Sheet:

Date of Public Notice: July 16, 2004

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0096229

FACILITY NAME: Butler Wastewater Treatment Plant

OWNER NAME: City of Butler

LOCATION: Sec. 34 T40N R31W County: Bates

RECEIVING STREAM: Mound Branch

FACILITY CONTACT PERSON: Trent Diehl

TELEPHONE: (660) 679-3061

FACILITY DESCRIPTION AND RATIONALE

Outfall #001 - POTW- SIC #4952

Two 0.75 MGD oxidation ditches/two clarifiers/aerobic sludge digestion/sludge is land applied. Design flow is 1.5 MGD, actual flow is 0.84 MGD.

See Water Quality Review Sheet for limits rationale

This permit will be issued for a period of five years.

WATER QUALITY REVIEW SHEET

Facility Information

FACILITY NAME: Butler WWTP NPDES/SOP #: MO-0096229

FACILITY TYPE/DESCRIPTION: Municipal WWTP, Oxid. Ditch. Upgrade w/aeration basin & clarifier

ECOREGION: Osage Plains 8- DIGIT HUC: 10290102 COUNTY: Bates
Central Irregular Plains Osage Plains
Mississippi Alluvial Plains Ozark Highlands

LEGAL DESCRIPTION: SW ¼, Sec. 34, T40N, R31W LATITUDE/LONGITUDE: 38.4715555 / -94.3220277

WATER QUALITY HISTORY: Data collected from low flow surveys in 1996 and 1997 show reduced dissolved oxygen levels 1 mile below the primary outfall. Both surveys indicated that 1.0 miles of Mound Branch was polluted (0.5-1.5 mi affected).

Outfall Characteristics

OUTFALL	DESIGN FLOW (CFS)	TREATMENT TYPE	RECEIVING STREAM	STREAM CLASS
001	2.325	Oxidation Ditch	Mound Branch	C

Receiving Waterbody Information

RECEIVING STREAM	CLASS	7Q10(CFS)	*DESIGNATED USES	OTHER CHARACTERISTICS
Mound Branch	C	0	LWW, AQL (limited warm water fishery)	Large discharge to intermittent stream.

*Cool Water Fishery (CLF), Cold Water Fishery (CDF), Irrigation (IRR), Industrial (IND), Boating & Canoeing (BTG), Drinking Water Supply (DWS), Whole Body Contact Recreation (WBC), Protection of Warmwater Aquatic Life and Human Health (AQL), Livestock & Wildlife Watering (LWW)

COMMENTS: This upgrade will increase the design flow from 0.7 MGD to 1.5 MGD (2.3 cfs) in a stream that was already effluent dominated. MOUND BRANCH IS ON THE TMDL LIST AS A RESULT OF THIS WWTP.

Permit Limits And Information

TMDL WATERSHED: ☒ Y W.L.A. STUDY CONDUCTED: ☐ N DISINFECTION REQUIRED: ☐ N DISINFECTION WAIVER: ☐ N
(Y OR N) (Y OR N) (Y OR N) (Y, N, OR NA)

OUTFALL	EFFLUENT PARAMETER	DAILY MAX/MIN	WEEKLY AVERAGE	MONTHLY AVERAGE	COMMENTS
001	BOD ₅ (mg/L)		10	10	RELEASE ABOVE 14 CFS UPSTREAM FLOW OR STEP AERATION.
001	NFR (mg/L)		15	15	RELEASE ABOVE 14 CFS UPSTREAM FLOW OR STEP AERATION.
001	Ammonia (mg/L)	4.5		2.25	SUMMER-SAME DISCHARGE CONDITIONS AS ABOVE
001	Ammonia (mg/L)	7.0		3.55	WINTER-SAME DISCHARGE CONDITIONS AS ABOVE

WET TEST (Y OR N): ☒ Y FREQUENCY: QUARTERLY A.E.C. 100% LIMIT: INSIGNIFICANT MORTALITY

Receiving Water Monitoring Requirements

SAMPLE LOCATION	PARAMETER	SAMPLING FREQUENCY	LOCATION DESCRIPTION
#1. At outfall	BOD, NFR, D.O., NH ₃ , pH, flow, velocity, temperature, conductivity	20 samples/year concurrent with locations #2 & #3	At outfall
#2. Upstream of WWTP	BOD, NFR, D.O., NH ₃ , pH, flow, velocity, temperature, conductivity	20 samples/year concurrent with locations #1 & #3	Mound Branch above plant
#3. Downstream of WWTP	BOD, NFR, D.O., NH ₃ , pH, flow, velocity, temperature, conductivity	20 samples/year concurrent with locations #1 & #2	Approximately ¼ mile below outfall on Mound Branch.

Derivation and Discussion of Limits

Upgrading Butler WWTP to a design flow of 1.5 MGD (2.325 cfs) increases the flow in an already effluent dominated (as well as 303(d) impaired) stream.

Stream surveys in 1996 and 1997 show dissolved oxygen levels below 5 mg/l at sample sites above and below Butler WWTP. Preliminary modeling with Qual2E indicate that dissolved oxygen levels in Mound Branch will not rise above 5 mg/l in dry weather. A dilution ratio of at least 5:1 is necessary to maintain dissolved oxygen at levels sufficient to protect aquatic life. So $(5 \times 2.3 \text{ cfs} = 11.5 \text{ cfs}) + 20\% \text{ Margin of Safety}$, $(11.5 \times .2) + 11.5 = 14 \text{ cfs}$. **Alternatively, step aeration could be used to increase dissolved oxygen in the mixing zone.**

This is a estimate that is likely to protect water quality associated with The beneficial uses listed above. A detailed (TMDL) study is scheduled to be completed by 2005.

Permit applicant may waive the processing dealine until the TMDL study is finsihed. Absent that waiver, the above limits will be proposed in draft permit. The permit may be modified based upon the findings of the study.

Reviewer: Chris Zell

Date: 01-04-2001

Section Chief: John Madras